

# SERVICE MANUAL

## INTEGRATED AMPLIFIER

### SANSUI AU-G90X



#### CAUTION

1. Parts identified by the  $\Delta$  symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

#### •SPECIFICATIONS

##### Power output

Min. RMS, both channels driven, from 10 to 20,000 Hz, with no more than 0.003% total harmonic distortion.

130 watts per channel into 8 ohms.

Load impedance..... 8 ohms

##### Total harmonic distortion

..... less than 0.003% at or below rated min. RMS power output

##### Intermodulation distortion

(60 Hz: 7 kHz=4:1 SMPTE method)

..... less than 0.003% at rated power output

##### Frequency response (at 1 watt)

Overall (from CD/AUX)

..... DC to 300,000 Hz, +0 dB  
-3.0 dB

##### RIAA curve deviation (PHONO-MM, 20 Hz to 20 kHz)

..... +0.2 dB, -0.2 dB

##### Input sensitivity and impedance (at 1 kHz)

PHONO (MC TRANS-LOW)

..... 100  $\mu$ V/5.3 ohms

PHONO (MC TRANS-HIGH)

..... 250  $\mu$ V/40 ohms

(Max. input capability: 20 mV at 1 kHz, less than 0.01% total harmonic distortion)

PHONO (HIGH MC) .. 2.5 mV/100 ohms

PHONO (MM)..... 2.5 mV/47 kohms

(Max. input capability: 300 mV at 1 kHz, less than 0.01% total harmonic distortion)

CD/AUX..... 150 mV/47 kohms

TUNER, TAPE PLAY-1, 2

..... 150 mV/47 kohms

##### Output level (1,000 Hz)

TAPE REC-1, 2..... 150 mV into 47 kohms

##### Signal to noise ratio (short-circuit, A-network)

PHONO (MC)..... 80 dB

PHONO (MM)..... 90 dB

CD/AUX..... 110 dB

TUNER, TAPE PLAY-1, 2

..... 110 dB

##### Controls and Filter

BASS.....  $\pm 10$  dB at 50 Hz

Tone selector..... 150 Hz, 300 Hz

TREBLE.....  $\pm 10$  dB at 10 kHz

Tone selector..... 3 kHz, 6 kHz

SUBSONIC..... -3 dB at 16 Hz (6 dB/oct)

MUTING..... -20 dB

LOUDNESS..... +8 dB at 50 Hz

+6 dB at 10 kHz

(VOLUME: -30 dB position)

##### Power requirements

Power voltage..... 120/220/240V (50/60 Hz)

For U.S.A. & Canada

..... 120V (60 Hz)

Power consumption .... 470 watts 580 VA Rated

700 watts Maximum

Dimensions..... 466 mm (18-3/8") W

161 mm (6-3/8") H

431 mm (17") D

Weight..... 17 kg (37.4 lbs) net

19 kg (41.8 lbs) packed

\* Design and specifications subject to changes without notice for improvements.

\* Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.



SANSUI ELECTRIC CO., LTD.

## CAUTION

1. The symbols, UL, CSA, SA, BS, UK, EU, AS and XX (EXPORT) on the parts list and the schematic diagram mean followings respectively.

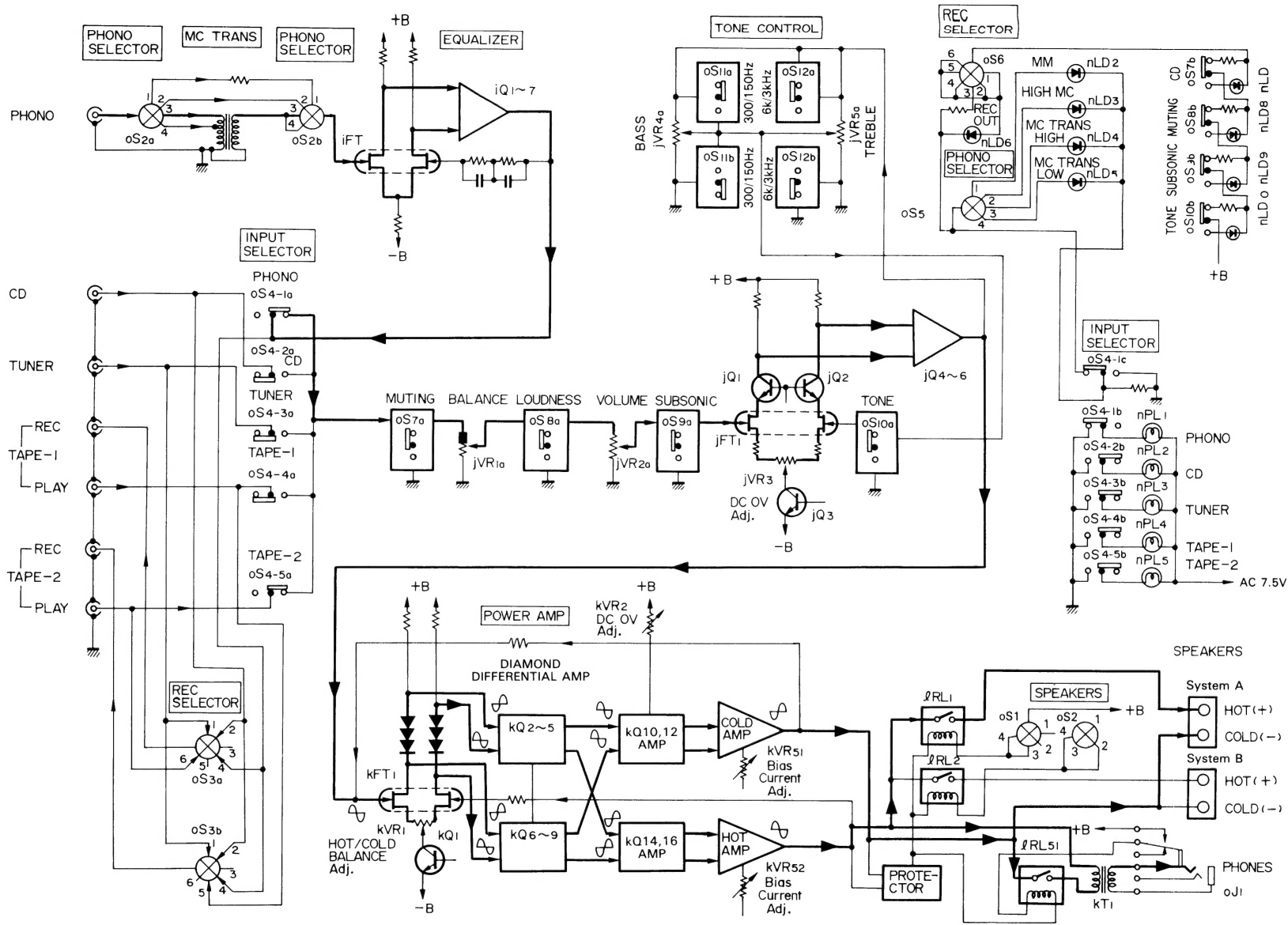
UL..... Manufactured for U.S.A market.  
 (Underwriters Laboratories approved model.)  
 CSA..... Manufactured for Canadian market.  
 SA..... Manufactured for South African market.  
 BS, UK ..... Manufactured for United Kingdom market.  
 EU ..... Manufactured for European market.  
 AS..... Manufactured for Australian market.  
 XX (EXPORT) ..... Standard Version.  
 NON MARK ..... Common Parts.

2. Some printed circuit boards are not supplied as the assembled.  
 To separate these in this service manual, the stock No's are not indicated at the ends of the board names. However, the individual parts on the circuit boards are provided by orders.
3. Since some of capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors, which was issued on February 1983.
4. Abbreviations in this service manual are as follows.

### •Abbreviations List

C.R. : Carbon Resistor	E.B.L. : Low Leak Bi-Polar
S.R. : Solid Resistor	Electrolytic Capacitor
Ce.R. : Cement Resistor	Ta.C. : Tantalum Capacitor
M.R. : Metal Film Resistor	F.C. : Film Capacitor
F.R. : Fusing Resistor	M.P. : Metalized Paper Capacitor
N.I.R. : Non-Inflammable Resistor	P.C. : Polystyrene Capacitor
A.R. : Array Resistor	G.C. : Gimmic Capacitor
C.C. : Ceramic Capacitor	A.C. : Array Capacitor
C.T. : Ceramic Capacitor,	V.R. : Variable Resistor
Temperature Compensation	S.V.R. : Semi Variable Resistor
E.C. : Electrolytic Capacitor	SW. : Switch
E.L. : Low Leak Electrolytic	Chip R. : Chip Resistor
Capacitor	Chip C. : Chip Capacitor
E.B. : Bi-Polar Electrolytic	
Capacitor	

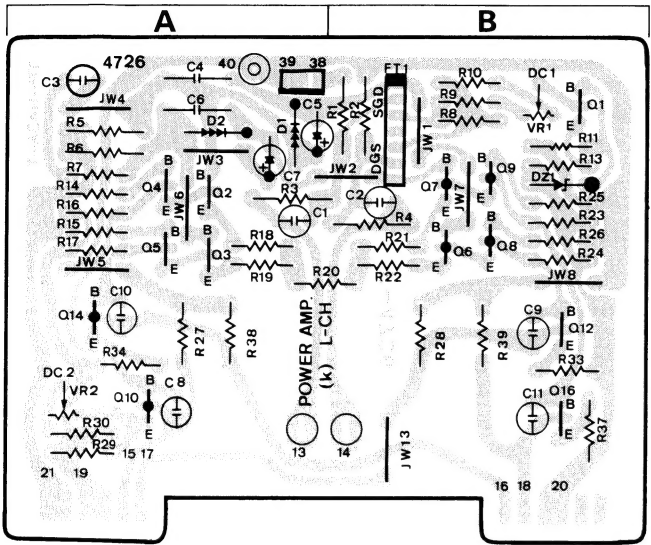
# 1. BLOCK DIAGRAM





2. PARTS LOCATION & PARTS LIST

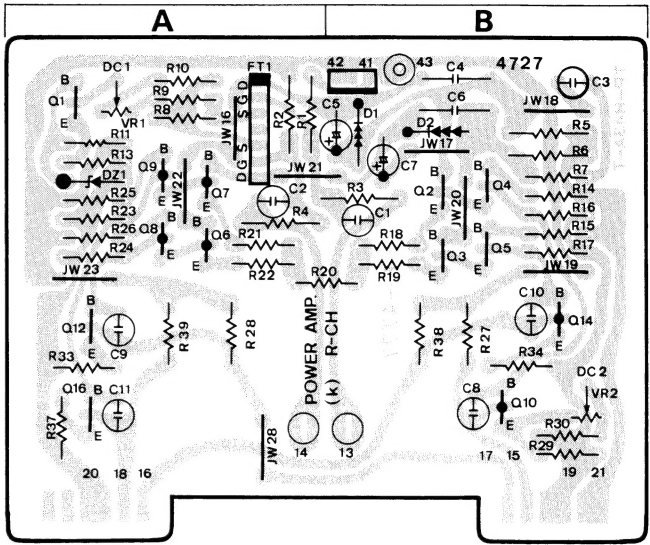
2-1. F-4726 Driver Amp. (L-ch) Circuit Board  
Component Side (Stock No. 00839401)



Parts List

Parts No.	Stock No.	Description
•Transistor		
kQ1	46581701	2SC1845
kQ2	46581701	2SC1845
kQ3	46581701	2SC1845
kQ4	46581701	2SC1845
kQ5	46581701	2SC1845
kQ6	46581601	2SA992
kQ7	46581601	2SA992
kQ8	46581601	2SA992
kQ9	46581601	2SA992
kQ10	46728201	2SA1145
kQ12	46728301	2SC2705
kQ14	46728201	2SA1145
kQ16	46728301	2SC2705
•FET		
kFT1	07110000 or 07110001	$\mu$ PA68H-L $\mu$ PA68H-M
kD1	03401700	Varistor MV103
kD2	03401700	Varistor MV103
kR1	46006400	4.3k $\Omega$ 1/2W C.R.
kR2	46006500	4.7k $\Omega$ 1/2W C.R.
kR3	48018400	150k $\Omega$ 1/4W C.R.
kR4	48018400	150k $\Omega$ 1/4W C.R.
$\Delta$ kR11	08924600	2.7k $\Omega$ 1/2W N.I.R.
$\Delta$ kR29	00132500	180 $\Omega$ 1/2W N.I.R.
$\Delta$ kR30	00133600	270 $\Omega$ 1/2W N.I.R.
$\Delta$ kR33	08923000	120 $\Omega$ 1/2W N.I.R.
$\Delta$ kR34	08923000	120 $\Omega$ 1/2W N.I.R.
$\Delta$ kR37	08923000	120 $\Omega$ 1/2W N.I.R.
kC3	46917800	1500pF 125V P.C.
kVR1	10335700	100 $\Omega$ (B) S.V.R., HOT/COLD DC Balance Adj.
kVR2	10336100	470 $\Omega$ (B) S.V.R., DC VO Adj.

2-2. F-4727 Driver Amp. (R-ch) Circuit Board  
Component Side (Stock No. 00839501)



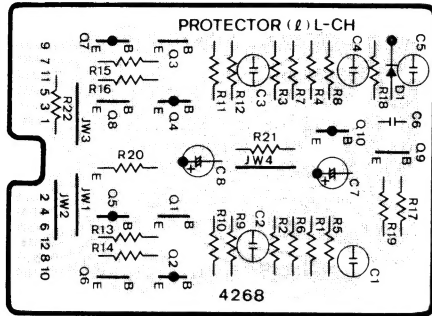
Parts List

Parts No.	Stock No.	Description
•Transistor		
kQ1	46581701	2SC1845
kQ2	46581701	2SC1845
kQ3	46581701	2SC1845
kQ4	46581701	2SC1845
kQ5	46581701	2SC1845
kQ6	46581601	2SA992
kQ7	46581601	2SA992
kQ8	46581601	2SA992
kQ9	46581601	2SA992
kQ10	46728201	2SA1145
kQ12	46728301	2SC2705
kQ14	46728201	2SA1145
kQ16	46728301	2SC2705
•FET		
kFT1	07110000 or 07110001	μPA68H-L μPA68H-M
kD1	03401700	Varistor MV103
kD2	03401700	Varistor MV103
kR1	46006400	4.3kΩ 1/2W C.R.
kR2	46006500	4.7kΩ 1/2W C.R.
kR3	48018400	150kΩ 1/4W C.R.
kR4	48018400	150kΩ 1/4W C.R.
⚠ kR11	08924600	2.7kΩ 1/2W N.I.R.
⚠ kR29	00132500	180Ω 1/2W N.I.R.
⚠ kR30	00133600	270Ω 1/2W N.I.R.
⚠ kR33	08923000	120Ω 1/2W N.I.R.
⚠ kR34	08923000	120Ω 1/2W N.I.R.
⚠ kR37	08923000	120Ω 1/2W N.I.R.
kC3	46917800	1500pF 125V P.C.
kVR1	10335700	100Ω(B) S.V.R., HOT/COLD DC Balance Adj.
kVR2	10336100	470Ω(B) S.V.R., DC VO Adj.



### 2-3. F-4268 Protector (L-ch) Circuit Board

Component Side (Stock No. 00816701)

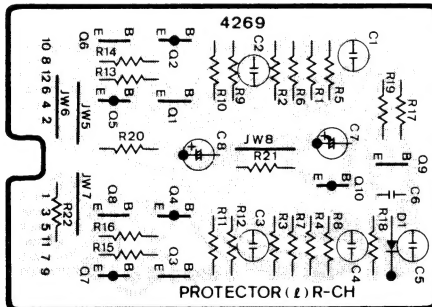


#### Parts List

Parts No.	Stock No.	Description
•Transistor		
IQ1	46367101	2SC2603
IQ2	46367001	2SA1115
IQ3	46367101	2SC2603
IQ4	46367001	2SA1115
IQ5	46367001	2SA1115
IQ6	46367101	2SC2603
IQ7	46367001	2SA1115
IQ8	46367101	2SC2603
IQ9	46367101	2SC2603
IQ10	46367001	2SA1115
•Diode		
ID1	03117600 or 46086000	1S2473T77 1S1588TP-3
IC6	46283300	0.022μF 50V F.C.

### 2-4. F-4269 Protector (L-ch) Circuit Board

Component Side (Stock No. 00816801)

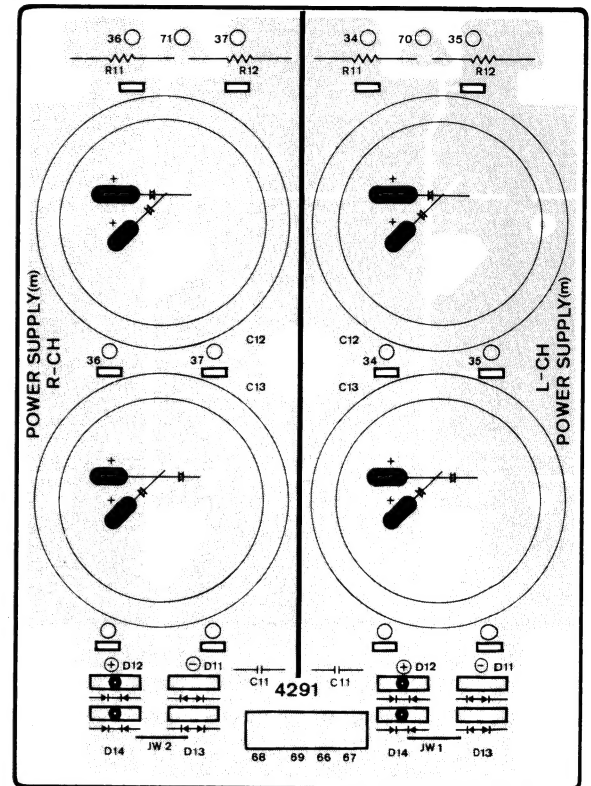


#### Parts List

Parts No.	Stock No.	Description
•Transistor		
IQ1	46367101	2SC2603
IQ2	46367001	2SA1115
IQ3	46367101	2SC2603
IQ4	46367001	2SA1115
IQ5	46367001	2SA1115
IQ6	46367101	2SC2603
IQ7	46367001	2SA1115
IQ8	46367101	2SC2603
IQ9	46367101	2SC2603
IQ10	46367001	2SA1115
•Diode		
ID1	03117600 or 46086000	1S2473T77 1S1588TP-3
IC6	46283300	0.022μF 50V F.C.

### 2-5. F-4291 Power Supply Circuit Board

Component Side

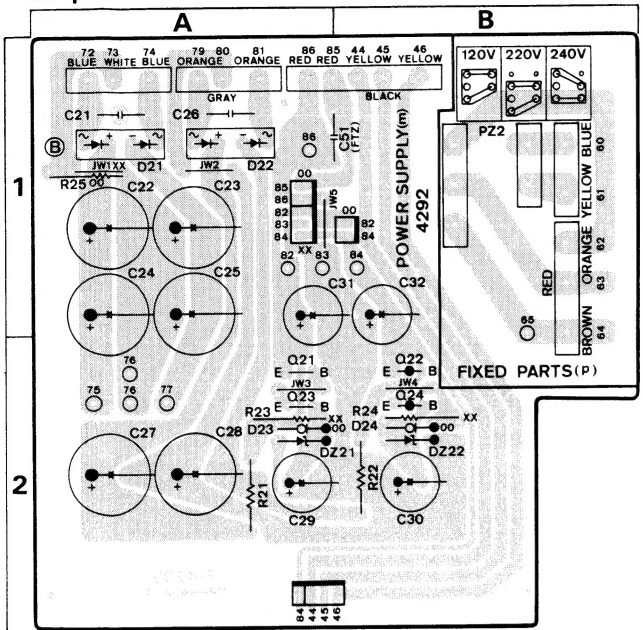


#### Parts List

Parts No.	Stock No.	Description
•Diode		
mD11	46731400	CTP-21R
mD12	46731500	CTP-21S
mR11	00184500	6.8kΩ 1W N.I.R.
mR12	00184500	6.8kΩ 1W N.I.R.
mC11	07287400	0.01μF 630V F.C.
mC12	46729200	10000μF 80V E.L.
mC13	46729200	10000μF 80V E.L.
mC33	46078400	0.47μF 200V F.C.

2-6. F-4292 Power Supply Circuit Board

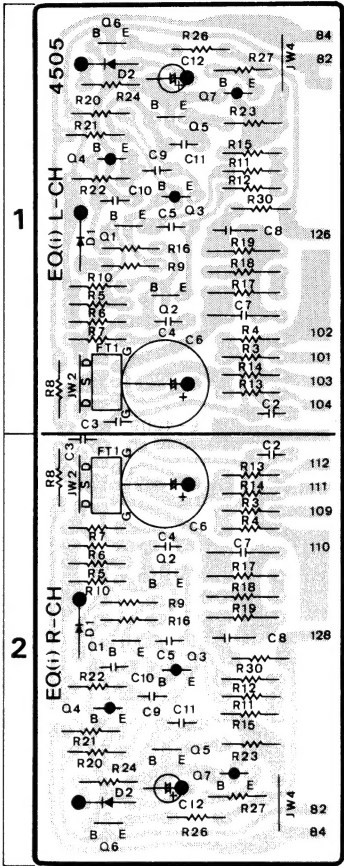
Component Side (Stock No. 00816301)



Parts List		
Parts No.	Stock No.	Description
•Transistor		
△ mQ21	03083901	2SD313AL
	or 46546701	2SD880
△ mQ22	48063301	2SB507
	or 48064601	2SB825
△ mQ23	03067401	2SC1845
△ mQ24	03010901	2SA992
•Diode		
△ mD21	07193300	UB-152LFF
△ mD22	07193300	UB-152LFF
mD23	46445600	Current RE. Diode 10YD4.5
mD24	46445600	Current RE. Diode 10YD4.5
•Zener Diode		
mDZ21	46106500	05Z30-Z
mDZ22	46106500	05Z30-Z
△ mR21	08922300	33Ω 1/2W N.I.R.
△ mR22	08922300	33Ω 1/2W N.I.R.
△ mR25	08921700	10Ω 1/2W N.I.R.
mC21	07287400	0.01μF 630V F.C.
mC22	46628500	470μF 50V E.C.
mC23	46628500	470μF 50V E.C.
mC24	46628500	470μF 50V E.C.
mC25	46628500	470μF 50V E.C.
mC26	07287400	0.01μF 630V F.C.
mC27	46628500	470μF 50V E.C.
mC28	46628500	470μF 50V E.C.
mC29	46628100	100μF 50V E.C.
mC30	46628100	100μF 50V E.C.
mC31	46628100	100μF 50V E.C.
mC32	46628100	100μF 50V E.C.

2-7. F-4505 Equalizer Amp. Circuit Board

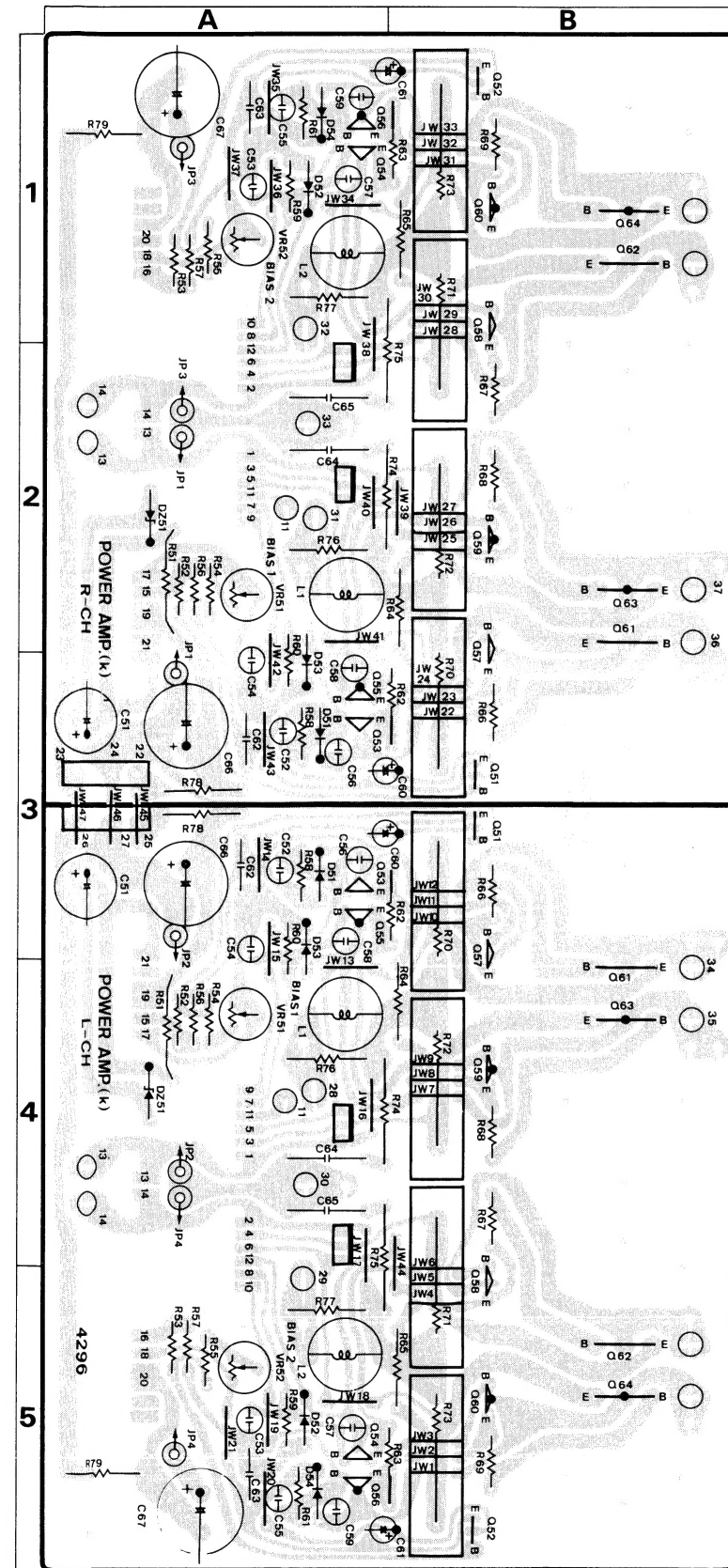
Component Side (Stock No. 00816101)



Parts List		
Parts No.	Stock No.	Description
•Transistor		
iQ1	46947401	2SC2459
iQ2	46947401	2SC2459
iQ3	03010901	2SA992
iQ4	03010901	2SA992
iQ5	03067401	2SC1845
iQ6	46728301	2SC2705
iQ7	46728201	2SA1145
•FET		
iFT1	46723601	2SK389-BL
	or 46723602	2SK389-V
•Diode		
iD1	03117600	1S2473T77
iD2	03117600	1S2473T77
iR8	08924800	3.9kΩ 1/2W N.I.R.
iR17	46009100	56kΩ 1/2W C.R.
iR18	46005300	1.5kΩ 1/2W C.R.
iR19	46006500	4.7kΩ 1/2W C.R.
△ iR26	08922500	4.7Ω 1/2W C.R.
△ iR27	08922500	4.7Ω 1/2W C.R.
iC7	00414500	0.056μF 100V P.C.
iC8	00413200	0.016μF 100V P.C.

2-8. F-4296 Power Amp. Circuit Board (Stock No. 00816401)

Component Side

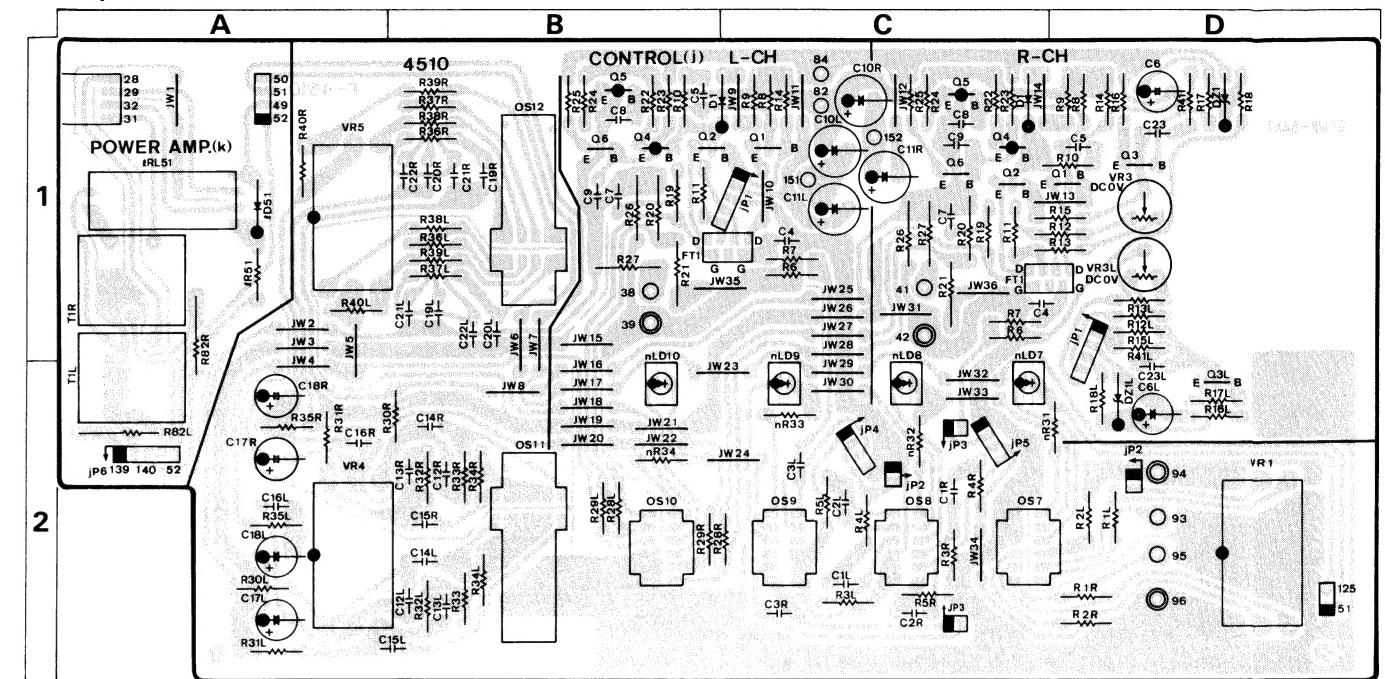


## Parts List

Parts No.	Stock No.	Description
• Transistor		
△ kQ51	03067401	2SC1845
△ kQ52	03067401	2SC1845
kQ53	07208701	2SC2705
kQ54	07208701	2SC2705
kQ55	07208801	2SA1145
kQ56	07208801	2SA1145
kQ57	46728901	2SC3298
kQ58	46728901	2SC3298
kQ59	46728801	2SA1306
kQ60	46728801	2SA1306
△ kQ61	46729901	2SC3519
△ kQ62	46729901	2SC3519
△ kQ63	46729801	2SA1386
△ kQ64	46729801	2SA1386
• Diode		
kD51	03117200	1S2091
kD52	03117200	1S2091
kD53	03117200	1S2091
kD54	03117200	1S2091
• Zener Diode		
kDZ51	03171900	RD27FB
△ kR51	00190800	560Ω 2W N.I.R.
△ kR58	08923600	390Ω 1/2W N.I.R.
△ kR59	08923600	390Ω 1/2W N.I.R.
△ kR60	08923600	390Ω 1/2W N.I.R.
△ kR61	08923600	390Ω 1/2W N.I.R.
△ kR62	08923800	560Ω 1/2W N.I.R.
△ kR63	08923800	560Ω 1/2W N.I.R.
△ kR64	08923000	120Ω 1/2W N.I.R.
△ kR65	08923000	120Ω 1/2W N.I.R.
△ kR66	08921300	4.7Ω 1/2W N.I.R.
△ kR67	08921300	4.7Ω 1/2W N.I.R.
△ kR68	08921300	4.7Ω 1/2W N.I.R.
△ kR69	08921300	4.7Ω 1/2W N.I.R.
△ kR70	46740000	0.27Ω 7W Ce.R.
△ kR71	46740000	0.27Ω 7W Ce.R.
△ kR72	46740000	0.27Ω 7W Ce.R.
△ kR73	46740000	0.27Ω 7W Ce.R.
△ kR74	00185500	10Ω 2W N.I.R.
△ kR75	00185500	10Ω 2W N.I.R.
△ kR76	00183600	4.7Ω 1W N.I.R.
△ kR77	00183600	4.7Ω 1W N.I.R.
△ kR78	08922300	33Ω 1/2W N.I.R.
△ kR79	08922300	33Ω 1/2W N.I.R.
KC51	46628100	100μF 50V E.C.
KC64	00411600	0.047μF 400V P.C.
KC65	00411600	0.047μF 400V P.C.
KC66	46628500	470μF 50V E.C.
KC67	46628500	470μF 50V E.C.
KL1	46851800	Inductor 0.5μH
KL2	46851800	Inductor 0.5μH
KVR51	10341800	330Ω(B)S.V.R., Bias Adj.
KVR52	10341800	330Ω(B)S.V.R., Bias Adj.

2-9. F-4510 Control Amp. Circuit Board (Stock No. 00817101)

Component Side

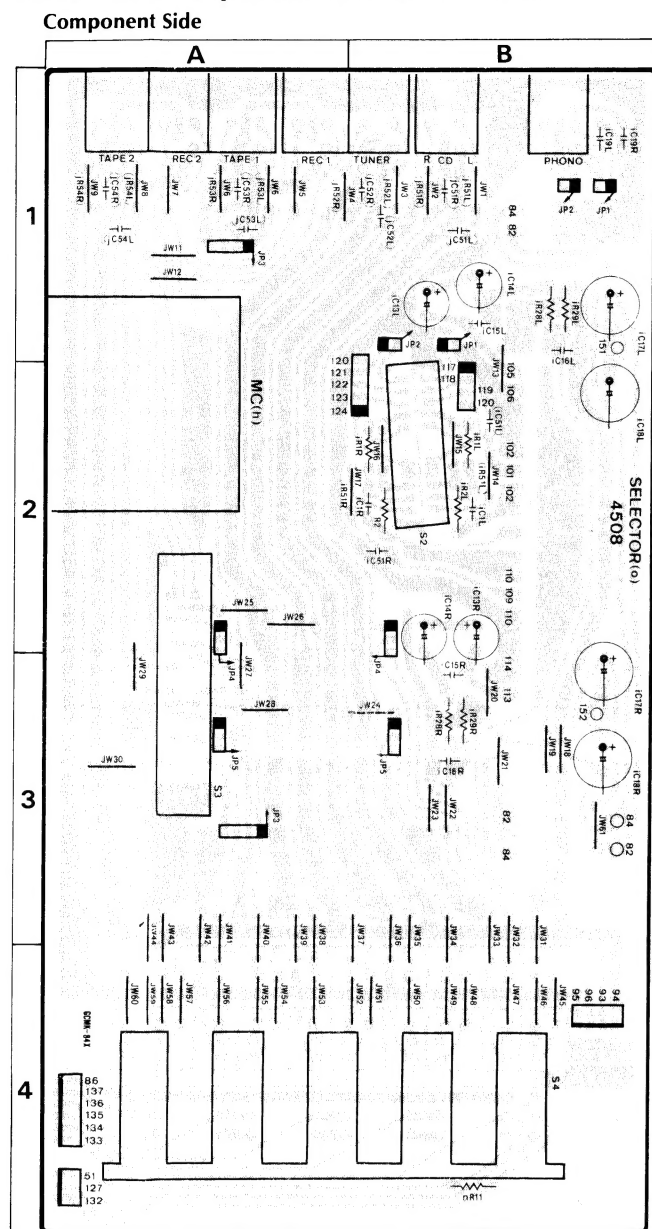


## Parts List

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
• Transistor			jC20	46694800	6800pF 50V F.C.
jQ1	46581701	2SC1845	jC21	46693200	1500pF 50V F.C.
jQ2	46581701	2SC1845	jC22	46695000	8200pF 50V F.C.
jQ3	46581701	2SC1845	jVR1	46731800	250kΩ V.R., BALANCE
jQ4	46581601	2SA992	jVR3	46738100	100Ω S.V.R., DC 0V Adj.
jQ5	46581601	2SA992	jVR4	46731910	100kΩ V.R., BASS
jQ6	46581701	2SC1845	jVR5	46731910	100kΩ V.R., TREBLE
• FET			kT1	46841800	Output Transformer, PHONES
jFT1	46723600	2SK389-GR	△ kR82	08922300	33Ω 1/2W N.I.R.
	or 46723601	2SK389-BL	• Diode		
	or 46723602	2SK389-V	ID51	03117600	1S2473T77
• Diode			△ IR51	08921700	10Ω 1/2W N.I.R.
jD1	03117600	1S2473T77	IRL51	11504300	Relay, PHONES
• Zener Diode				or 11504301	Relay, PHONES
jDZ1	46114200	05Z13-Y	• LED		
jR20	46008100	22kΩ 1/2W C.R.	nLD7	48126300	SEL2210S
jR21	46006200	3.6kΩ 1/2W C.R.	nLD8	48126300	SEL2210S
△ jR24	08923600	390Ω 1/2W N.I.R.	nLD9	48126300	SEL2210S
△ jR25	08923600	390Ω 1/2W N.I.R.	nLD10	48126300	SEL2210S
jR27	46003300	220Ω 1/2W C.R.	oS7	46736800	Push SW., MUTING
jC2	46697200	0.068μF 50V F.C.	oS8	46736800	Push SW., LOUDNESS
jC3	46696700	0.043μF 50V F.C.	oS9	46736800	Push SW., SUBSONIC
jC12	46695600	0.015μF 50V F.C.	oS10	46736800	Push SW., TONE
jC13	46697400	0.082μF 50V F.C.	oS11	46730600	Push SW., BASS
jC14	46695600	0.015μF 50V F.C.	oS12	46730600	Push SW., TREBLE
jC15	46697400	0.082μF 50V F.C.			
jC16	46283700	0.047μF 50V F.C.			
jC19	46693000	1200pF 50V F.C.			



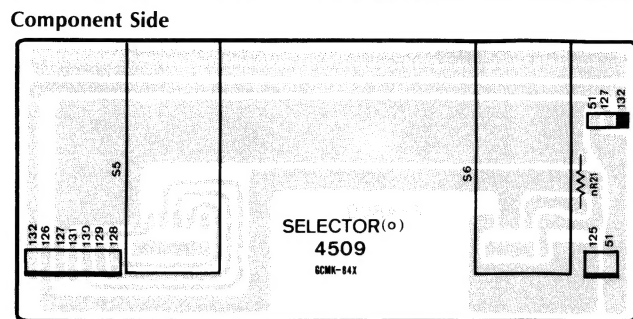
## 2-10. F-4508 Input Selector Circuit Board



## Parts List

Parts No.	Stock No.	Description
hT1	46940000	MC Head Transformer
iC15	46281300	0.047 $\mu$ F 50V F.C.
iC16	46699900	3900pF 50V F.C.
oS2	46939900	Slide SW., PHONO SELECTOR
oS3	07200200	Slide SW., REC SELECTOR
oS4	46726800	Push SW., INPUT SELECTOR
oZ3	46684800	2P Terminal Board, DC
oZ4	46685300	6P Terminal Board, TAPE-1 PLAY, TAPE-2
oZ5	48002700	4P Terminal Board, TUNER, TAPE-1 REC
oZ6	46684900	2P Terminal Board, PHONO

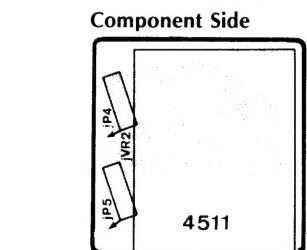
## 2-11. F-4509 Phono &amp; REC Selector Circuit Board



## Parts List

Parts No.	Stock No.	Description
oS5	46726510	Rotary SW., PHONO Indicator
oS6	46726610	Rotary SW., REC Indicator

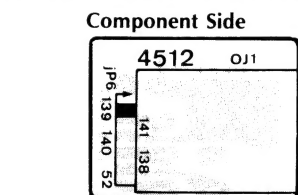
## 2-12. F-4511 VOLUME Control Board



## Parts List

Parts No.	Stock No.	Description
jVR2	46737100	100k $\Omega$ V.R., VOLUME

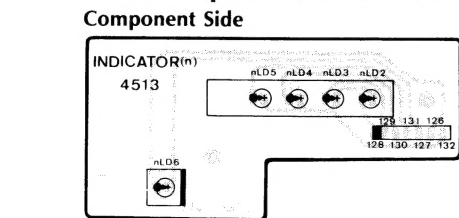
## 2-13. F-4512 PHONES Jack Board



## Parts List

Parts No.	Stock No.	Description
oJ1	46078200	Jack, PHONES

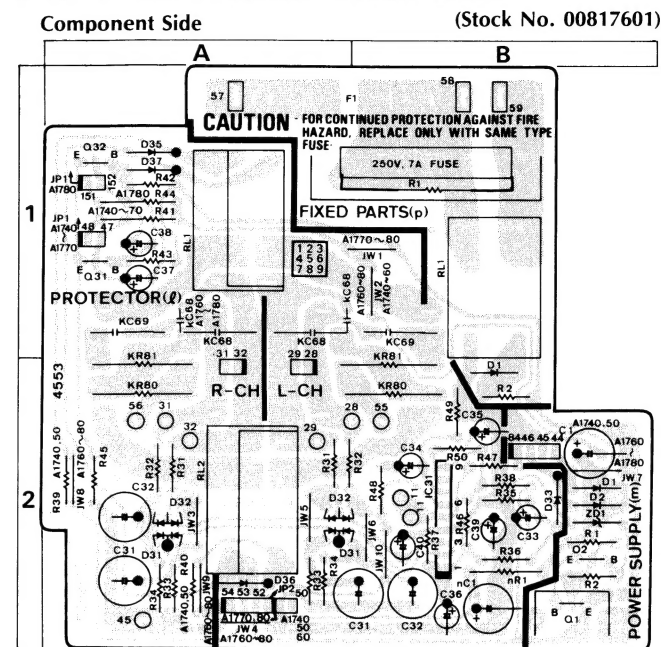
## 2-14. F-4513 Input Indicator LED Board



## Parts List

Parts No.	Stock No.	Description
nLD2	07246200	SEL1710K
nLD3	07246200	SEL1710K
nLD4	07246200	SEL1710K
nLD5	07246200	SEL1710K
nLD6	03193700	SEL1110S

## 2-15. F-4553 Protector Circuit Board



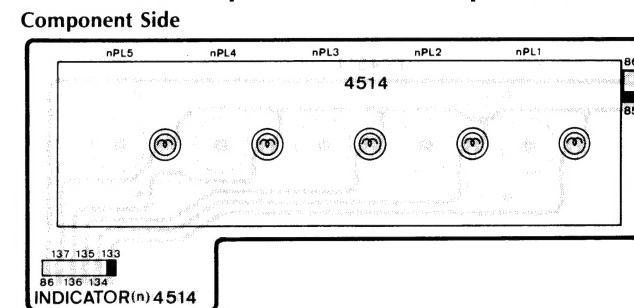
## Parts List

Parts No.	Stock No.	Description
kR39	08921700	10 $\Omega$ 1/2W N.I.R.
kR40	08921700	10 $\Omega$ 1/2W N.I.R.
kR80	00185500	10 $\Omega$ 2W N.I.R.
kR81	00185500	10 $\Omega$ 2W N.I.R.
kC68	46615100	0.047 $\mu$ F 50V P.C.
kC69	46615100	0.047 $\mu$ F 50V P.C.
•Transistor		
IQ31	07194801	2SC1815
IQ32	07194801	2SC1815
•IC		
IIC31	46207600	TA7317P
•Diode		
ID31	46463900	MC921
ID32	46463700	MC911
ID33	03117700	10E-2
ID35	03117700	10E-2
ID36	03117700	10E-2
ID37	03111800	1S1588
	or 07176400	1S2473HS
IR41	00180800	1.8k 1W N.I.R.
IC31	00304400	100 $\mu$ F 16V E.B.
IC32	00304400	100 $\mu$ F 16V E.B.
IRL1	46446400	Relay JC24V (Protector)
IRL2	46446400	Relay JC24V (Protector)
•Transistor		
mQ1	03086101	2SD357
mQ2	03067401	2SC1845
•Diode		
mD1	03117700	10E-2
mD2	03117700	10E-2
•Zener Diode		
mDZ1	46105800	05Z24-Y
mR1	08922300	33 $\Omega$ 1/2W N.I.R.
mR2	08924100	1k $\Omega$ 1/2W N.I.R.
nR1	00180800	1.8k $\Omega$ 1W N.I.R.
oZ1	46739500	Terminal Board, SPEAKERS

## Parts List &lt;F-4553&gt;

Parts No.	Stock No.	Description
•Diode		
pD1	03117700	10E-2
pR1	46739900	3.9 $\Omega$ 10W Ce.R.
pF1	07189100	Fuse 5.0A 250V
	or 07189500	Fuse 10A 250V
pRL1	46222200	Relay, POWER

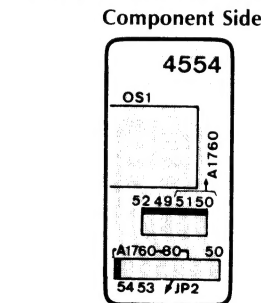
## 2-16. F-4514 Input Indicator Lamp Board



## Parts List

Parts No.	Stock No.	Description
nPL1	46730000	Pilot Lamp 8V 0.1A
nPL2	46730000	Pilot Lamp 8V 0.1A
nPL3	46730000	Pilot Lamp 8V 0.1A
nPL4	46730000	Pilot Lamp 8V 0.1A
nPL5	46730000	Pilot Lamp 8V 0.1A

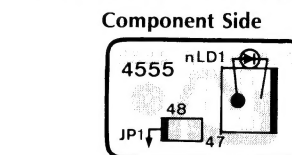
## 2-17. F-4554 SPEAKERS Selector Board



## Parts List

Parts No.	Stock No.	Description
oS1	46730700	Rotary SW., SPEAKERS

## 2-18. F-4555 PROTECTOR LED Board

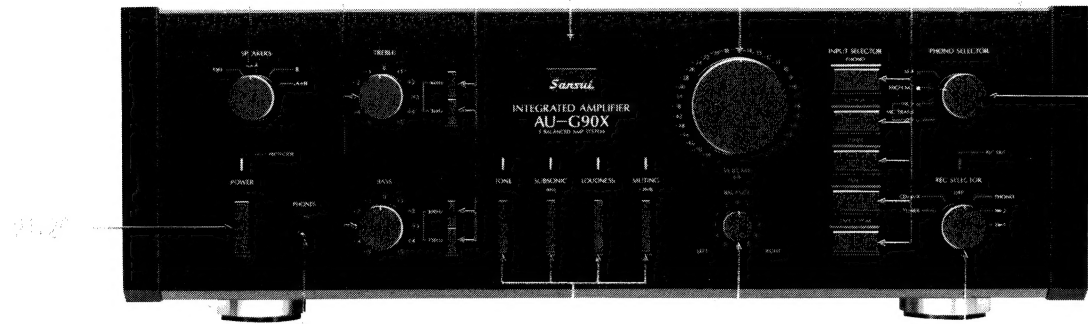


## Parts List

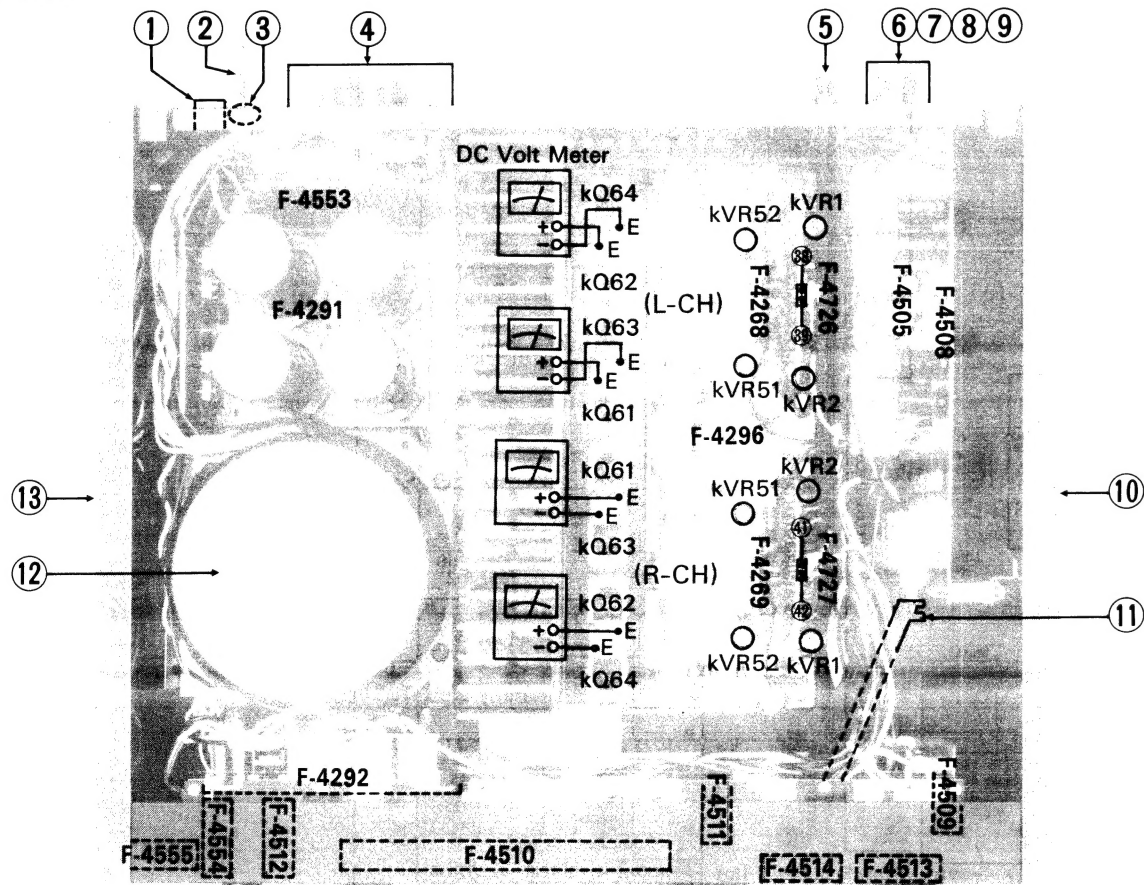
Parts No.	Stock No.	Description
•LED		
nLD1	03193700	SEL1110S

3. OTHER PARTS

3-1. Front View



3-2. Top View



Parts List <Front View>

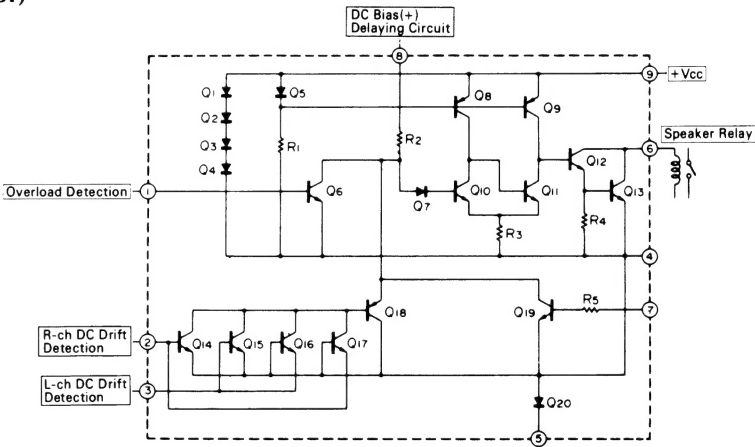
Parts No.	Stock No.	Description
1	47316400	Knob, SPEAKERS, TREBLE, BASS, PHONO SELECTOR, REC SELECTOR
2	46939600	Rotary SW., SPEAKERS
3	46731910	100kΩ V.R., TREBLE, BASS
4	47301320	Knob, 300Hz, 150Hz, 6kHz, 3kHz
5	46730600	Push SW., 300Hz, 150kHz, 6kHz, 3kHz
6	47616500	Front Panel Ass'y
6-1	47334110	Knob Ass'y
7	47616400	Knob, VOLUME
8	46737100	100kΩ V.R., VOLUME
9	46726800	Push SW., INPUT SELECTOR
10	47332310	Bonnet
11	46726510	Rotary SW., PHONO Indicator
12	46939900	Slide SW., PHONO SELECTOR
13	46726610	Rotary SW., REC Indicator
14	07200200	Slide SW., REC SELECTOR
15	47316200	Knob, BALANCE
16	46731800	250kΩ V.R., BALANCE
17	47302320	Knob, TONE, SUBSONIC, LOUDNESS, MUTTING
18	46736800	Push SW., TONE, SUBSONIC LOUDNESS, MUTTING
19	46078200	Jack, PHONES
20	47302110	Knob, POWER
21	46612900	Push SW., POWER
22	47338400	Leg Ass'y

Parts List <Top View>






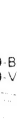











Parts No.	Stock No.	Description
1	46730400	AC OUTLET
2	38004700	Power Supply Cord (XX)
3	46321000	Power Supply Cord (CSA)
4	46128900	Power Supply Cord (EU)
5	39104900	Strain Relief (CSA, EU)
6	39106000	Strain Relief (XX)
7	46739500	8P Terminal, SPEAKERS
8	22301900	Ground Terminal
9	46684900	2P Terminal, PHONO
10	46684800	2P Terminal, CD
11	48002700	4P Terminal, TUNER, TAPE-1 REC
12	46685300	6P Terminal, TAPE-1 PLAY, TAPE-2
13	47331500	Side Panel Ass'y (R)
14	47301210	Joint Shaft, INPUT SELECTOR
15	15017701	Power Transformer (XX)
16	15017703	Power Transformer (CSA)
17	15017705	Power Transformer (EU)
18	47331600	Side Panel Ass'y (L)

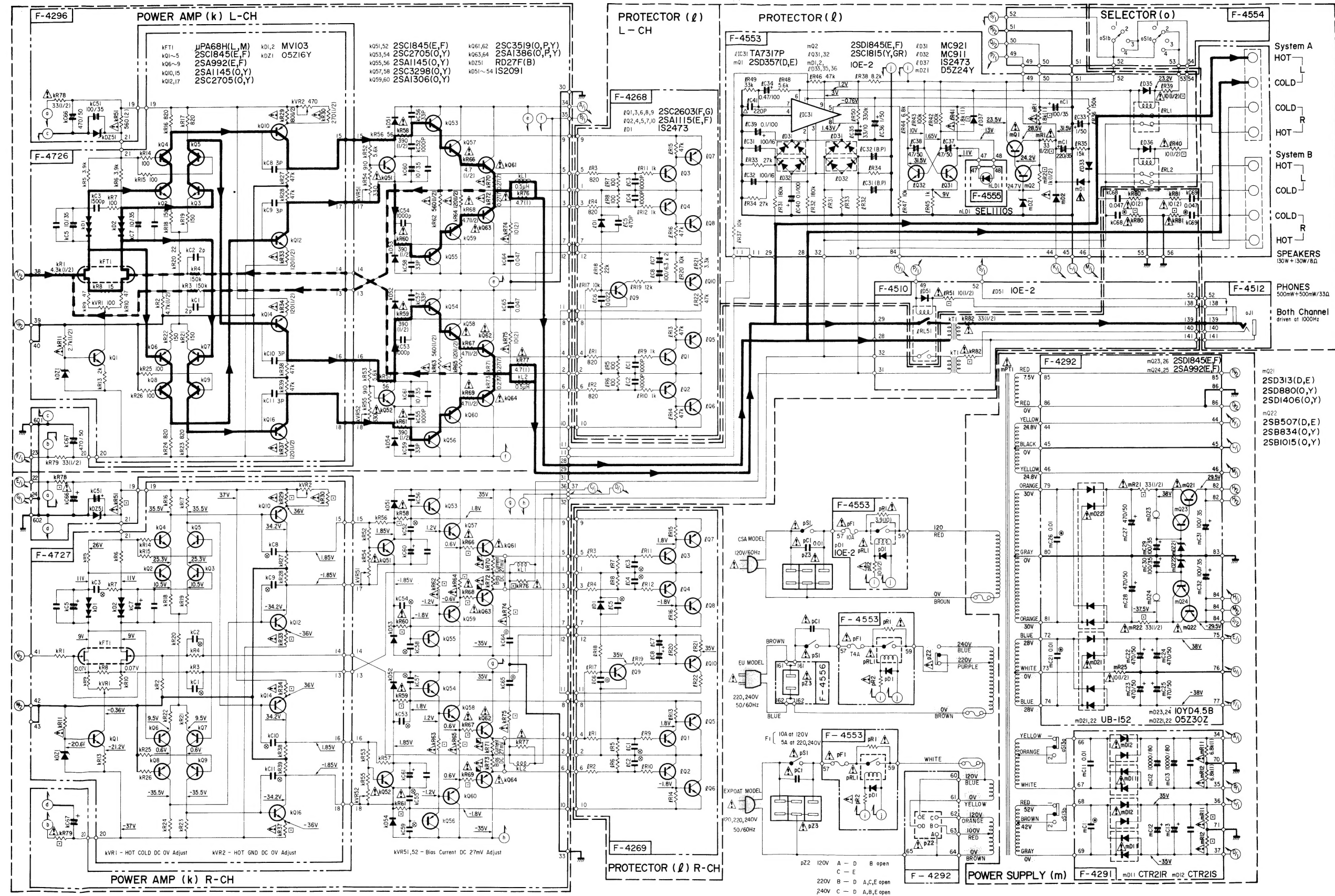
4. INTERIOR BLOCK DIAGRAM OF IC

•TA7317P (Protector)



### 5-1. Power Amp Section

2SA992  
 2SA1145  
 2SC1815  
 2SC1845  
 2SC2705  
  
 E C B  
 2SA1386LF103  
 2SC3519LF103  
  
 E C B  
 2SA1115  
 2SC2459  
 2SC2603  
  
 B C E  
 2SB507V11A  
 2SD313AL  
 2SD825  
 2SD826  
 2SD880  
  
 B C E  
 2SD357  
  
 B C E  
 PA68H-L  
 PA68H-M  
  
 2SK389 BL  
 2SK389-V  
  
 D1 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 D21 D22 D23 D24 D25 D26 D27 D28 D29 D30 D31 D32 D33 D34 D35 D36 D37 D38 D39 D40 D41 D42 D43 D44 D45 D46 D47 D48 D49 D50 D51 D52 D53 D54 D55 D56 D57 D58 D59 D60 D61 D62 D63 D64 D65 D66 D67 D68 D69 D70 D71 D72 D73 D74 D75 D76 D77 D78 D79 D80 D81 D82 D83 D84 D85 D86 D87 D88 D89 D90 D91 D92 D93 D94 D95 D96 D97 D98 D99 D100  
 CTP21S  
 TA7317P  
  
 CTP21R  
  
 MC921  
  
 MC911  
  
 10YD4 5  
  
 UB152LFF  
  
 1S2091  
 1S2473HS  
 1S2473T77  
 10E 2  
 SV04  
  
 MV103  
  
 SEL1110S  
 SEL1710K  
 TLS 123  
  
 05Z13Y  
 05Z16Y  
 05Z24Y  
 05Z30Z  
 RD27FB  


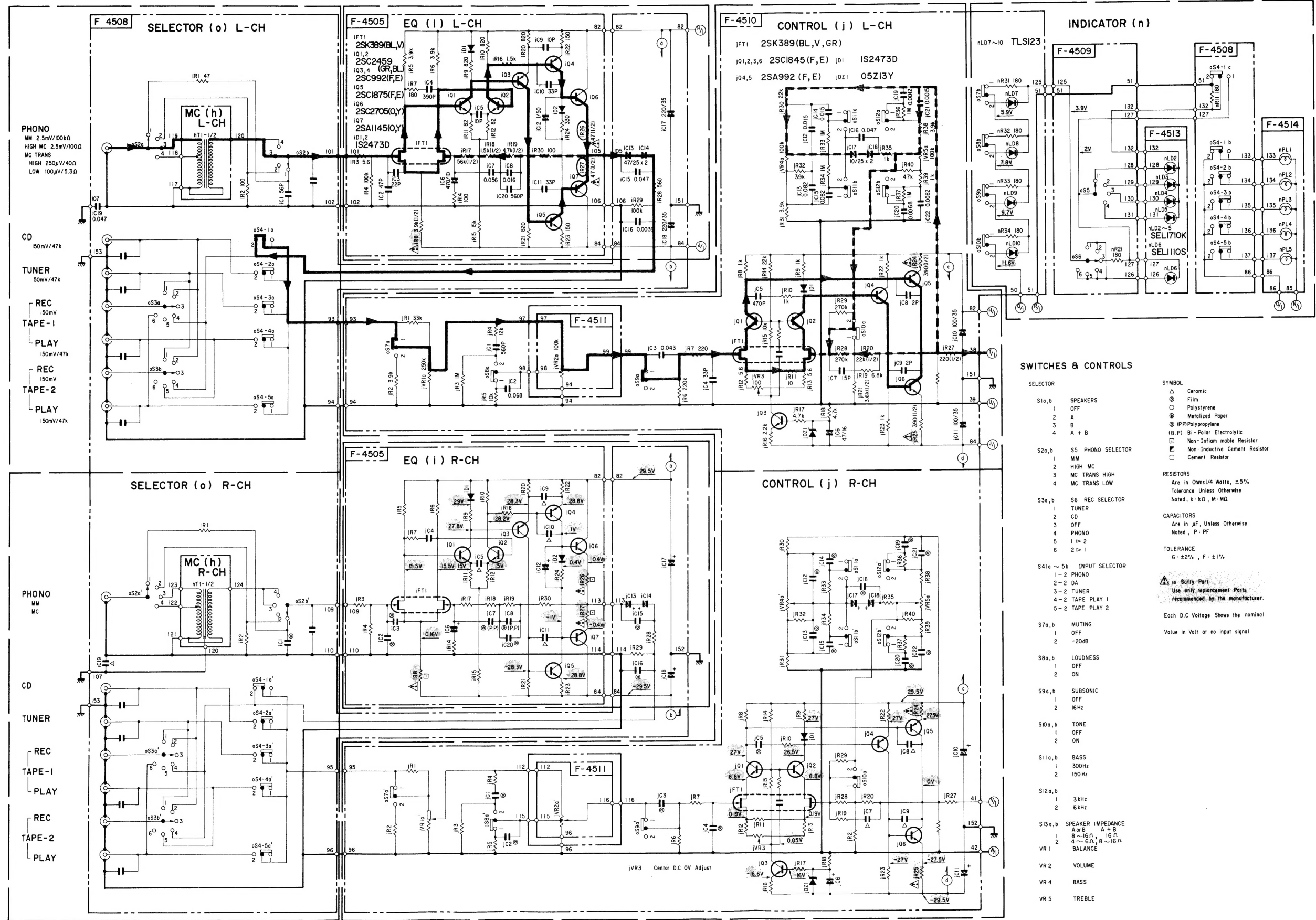


————— Signal Line  
- - - - - N.F.B. Line



5-2. Pre Amp Section

\* Design and specifications subject to change without notice for improvement.  
\* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.  
\* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



SWITCHES & CONTROLS

- SELECTOR
- S1a,b SPEAKERS
- 1 OFF
- 2 A
- 3 B
- 4 A + B
- S2a,b S5 PHONO SELECTOR
- 1 MM
- 2 HIGH MC
- 3 MC TRANS HIGH
- 4 MC TRANS LOW
- S3a,b S6 REC SELECTOR
- 1 TUNER
- 2 CD
- 3 OFF
- 4 PHONO
- 5 1 > 2
- 6 2 > 1
- S4a ~ 5b INPUT SELECTOR
- 1-2 PHONO
- 2-2 DA
- 3-2 TUNER
- 4-2 TAPE PLAY 1
- 5-2 TAPE PLAY 2
- S7a,b MUTING
- 1 OFF
- 2 -20dB
- S8a,b LOUDNESS
- 1 OFF
- 2 ON
- S9a,b SUBSONIC
- 1 OFF
- 2 16Hz
- S10a,b TONE
- 1 OFF
- 2 ON
- S11a,b BASS
- 1 300Hz
- 2 150Hz
- S12a,b
- 1 3kHz
- 2 6kHz
- S13a,b SPEAKER IMPEDANCE
- 1 A or B A + B
- 2 8~16Ω 16Ω
- VR1 BALANCE
- VR2 VOLUME
- VR4 BASS
- VR5 TREBLE

SYMBOL

△ Ceramic

○ Film

○ Polystyrene

⊙ Metallized Paper

⊙ (PPI) Polypropylene

(B.P.) Bi-Polar Electrolytic

□ Non-Inductable Resistor

■ Non-Inductive Cement Resistor

□ Cement Resistor

RESISTORS

Are in Ohms/4 Watts, ±5%  
Tolerance Unless Otherwise  
Noted, k: kΩ, M: MΩ

CAPACITORS

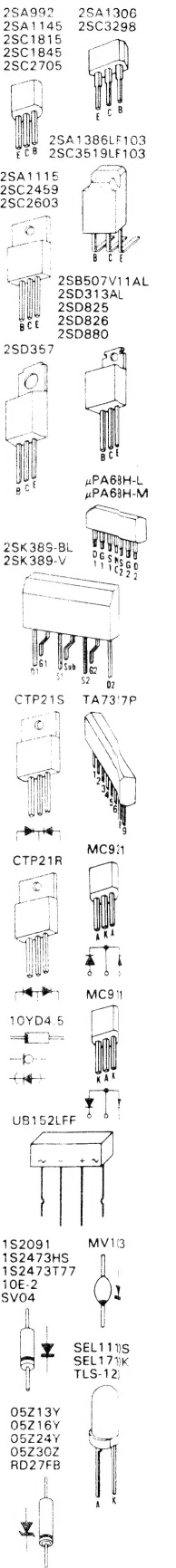
Are in μF, Unless Otherwise  
Noted, p: pF

TOLERANCE

G: ±2%, F: ±1%

△ is Safety Part  
Use only replacement Parts  
recommended by the manufacturer.

Each D.C. Voltage Shows the nominal  
Value in Volt at no input signal.



Signal Line

N.F.B. Line



## 6. ADJUSTMENT

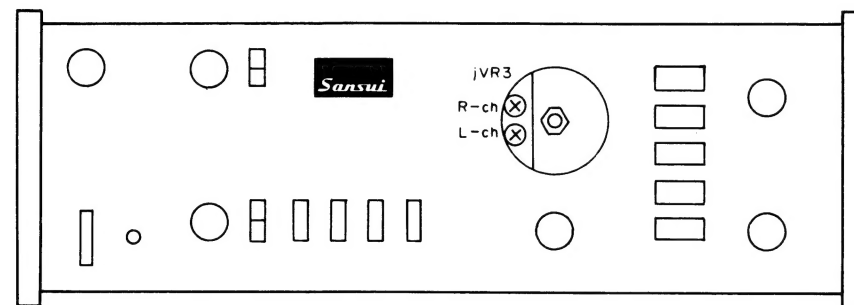
- Condition:**
1. Master Volume ..... Minimum
  2. Room Temperature ..... 18°C ~ 28°C (65°F ~ 83°F)
  3. Test Equipment ..... DC Volt Meter
  4. For this adjustment, run the unit for more than 20 minutes after the power is switched ON.
  5. Before turning ON POWER Switch set kVR51, 52 little counterclockwise.

### 6-1. F-4510 Flat Amp. Circuit Adjustment (Refer to Fig. 6-1)

**Note:** For this adjustment, removal of the front panel is required.

STEP	SUBJECT	MESURE OUTPUT	ADJUST	ADJUST FOR
1	Center DC 0V Adj. <L-ch>	DC Voltage between Output Terminals No. 38 and 39 on F-4726.	jVR3 <L-ch> F-4510	DC 0V $\pm$ 5mV
2	Center DC 0V Adj. <R-ch>	DC Voltage between Output Terminals No. 41 and 42 on F-4727.	jVR3 <R-ch> F-4510	DC 0V $\pm$ 5mV

Fig. 6-1 Front View



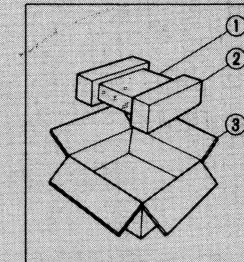
### 6-2. Power Amp. Circuit Adjustment (Refer to Top View on Page 8)

STEP	SUBJECT	MESURE OUTPUT	ADJUST	ADJUST FOR
1	Hot/Cold Balance Adj. <L-ch>	DC Voltage between Speaker Terminals HOT and COLD. <L-ch>	kVR1 F-4726	DC 0V $\pm$ 5mV
2	Hot/Cold Balance Adj. <R-ch>	DC Voltage between Speaker Terminals HOT and COLD. <R-ch>	kVR1 F-4727	DC 0V $\pm$ 5mV
3	Center DC 0V Adj. <L-ch>	DC Voltage between Speaker Terminal HOT and GND. <L-ch>	kVR2 F-4726	DC 0V $\pm$ 5mV
4	Center DC 0V Adj. <R-ch>	DC Voltage between Speaker Terminal HOT and GND. <R-ch>	kVR2 F-4727	DC 0V $\pm$ 5mV
5	Bias Current Adj. <Hot Side Amp. of L-ch>	DC Voltage between Emitters of power transistors (kQ62 & kQ64). <L-ch>	kVR52 <L-ch> F-4296	DC 27mV $\pm$ 2mV
6	Bias Current Adj. <Cold Side Amp. of L-ch>	DC Voltage between Emitters of power transistors (kQ61 & kQ63). <L-ch>	kVR51 <L-ch> F-4296	DC 27mV $\pm$ 2mV
7	Bias Current Adj. <Hot Side Amp. of R-ch>	DC Voltage between Emitters of power transistors (kQ62 & kQ64). <R-ch>	kVR52 <R-ch> F-4296	DC 27mV $\pm$ 2mV
8	Bias Current Adj. <Cold Side Amp. of R-ch>	DC Voltage between Emitters of power transistors (kQ61 & kQ63). <R-ch>	kVR51 <R-ch> F-4296	DC 27mV $\pm$ 2mV

**Note:** Repeat procedures as stated in subject in Step 1 ~ 4.

## 7. PACKING LIST

Parts No.	Stock No.	Description
1	91167720	Vinyl Bag
2	47332810	Styrofoam Packing
3	47627600	Carton Case



## 8. ACCESSORY LIST

Stock No.	Description
46961000	Operating Instruction



SANSUI ELECTRIC CO., LTD.:  
SANSUI ELECTRONICS CORPORATION:  
SANSUI ELECTRONICS (U.K.) LTD.:  
SANSUI ELECTRONICS G.M.B.H.:

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(SM1-181)

Printed in Japan (740420M) <Stock No. 36498900>